

CLAIMS

1. A process for reducing content of sulphur compounds and polycyclic aromatic hydrocarbons in a hydrocarbon feed stock having a boiling range between 200°C and 600°C, which process comprises the steps of

- 5 (a) contacting the feed stock with hydrogen over a hydrotreating catalyst at conditions being effective in hydrotreating and obtaining an hydrotreated effluent with the hydrotreated feed stock, hydrogen sulphide and hydrogen,
- 10 (b) cooling the effluent, and
- (c) contacting the effluent with a hydrotreating catalyst at conditions being effective in hydrogenation of polycyclic aromatic hydrocarbons.

15 2. A process of claim 1, wherein the temperature in step (c) is between 50°C and 150°C lower than outlet temperature from step (a).

20 3. A process of claim 1, wherein LHSV in step (c) is between 2 and 20 times the LHSV in step (a).

4. A process of claim 1, wherein step (c) is performed in a final catalyst bed of the hydrotreating step.

25 5. A process of claim 1, wherein the feedstock is characterised by having a 50% boiling point between 300°C and 450°C.

6. A process of claim 1, wherein the hydrotreating catalyst used in step (c) step is a composite of Group VI-B and/or Group VIII metal on a porous refractory inorganic oxide.

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7. A process of claim 6, wherein the metals are nickel and molybdenum or nickel and tungsten.

8. A process of claim 6, wherein the porous refractory inorganic oxide is alumina or silica-alumina.

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